APPLICATION FOR FIRE PROTECTION PERMIT AND PLAN REVIEW GUIDE FOR FIRE SPRINKLER SYSTEMS

City of Williamsburg, 401 Lafayette Street, Williamsburg, Virginia 23185-3617
Office Phone (757)220-6136 Office Fax (757)259-8048

STREET ADDRESS/LOCATION: _____

PROJECT NAME: _____ **DATE:** _____

APPLICANT: OWNER _____ CONTRACTOR _____ LEASEHOLDER _____ OTHER _____

CONTRACTOR: _____ **PROPERTY OWNER:** _____

ADDRESS: _____ **ADDRESS:** _____

_____ _____

ZIP CODE: _____ **ZIP CODE:** _____

JOB CONTACT: _____

CONTACT PHONE: _____

****PROOF OF VALID STATE AND LOCAL LICENSES MUST BE PROVIDED AT TIME OF APPLICATION****

STATE REGISTRATION #_____ CLASS: A B C EXPIRATION _____ WORK CLASS _____
BUSINESS LICENSE LOCALITY _____ NUMBER _____ EXPIRATION _____

BRIEF DESCRIPTION OF WORK _____
_____

Fire sprinkler system installation information shall be provided on the appropriate architectural drawings. A copy of this guide shall be attached to submitted drawings. **A review will not be conducted without this guide being submitted with the drawings.**

The following items shall be included on the drawings. Place initials beside each item to indicate information is included on or submitted with the drawings. **Place N/R for items not required by the code. Place N/A for items not-applicable.**

1. Indicate the type of system to be installed:

USE GROUP _____ IS SYSTEM REQUIRED BY THE USBC? YES ____ NO ____

___AUTOMATIC SPRINKLER ___Residential (13D) ___Limited Area (20 heads)
___COMMERCIAL (13, 13R, 231C) NUMBER OF HEADS_____
___FIRE PUMPS (Per Pump) ___STANDPIPE (Per Riser)
___FIRE PROTECTION (Per Hood) NUMBER OF HEADS _____
___FIRE ALARMS AND DETECTION: NUMBER OF DEVICES _____

TOTAL VALUE OF JOB: $ _____ APPLICANT SIGNATURE: _____

PERMIT # F-_____ APPLICANT PRINTED NAME: _____

Place your initials beside the appropriate answer for items 2 through 5.

2. Will there be "in-rack", "bin", or "high piled" storage inside the building? **Yes _____ No _____**
3. Will there be any storage of flammable and/or combustible liquids within the building? **Yes _____ No _____**
4. Will there be any Use, Dispensing, and/or Mixing of flammable and/or combustible liquids within the building? **Yes _____ No _____**
5. Will there be any Storage, Use, Dispensing, and/or Mixing of any hazardous materials other than flammable or combustible liquids inside the building? **Yes _____ No _____**

Place your initials beside each statement to indicate necessary information is included, and/or submitted with the plans.

_____ **6.** Plans shall be drawn to an indicated scale, on sheets of uniform size, with a plan of each floor, and shall show those items from the following list that pertain to the design of the system:

- _____Name of owner and occupant.
- _____Location, including street address.
- _____Point of compass.
- _____Full height cross section or schematic diagram with ceiling construction and method of protection for nonmetallic piping.
- _____Location of partitions.
- _____Location of fire walls.
- _____Occupancy class of each area or room.
- _____Location and size of concealed spaces, closets, attics, and bathrooms.
- _____Any small enclosures in which no sprinklers are to be installed.
- _____Size of city main in street, and whether dead end and city main test results and system elevation relative to test hydrant.
- _____Other sources of water supply, with pressure of elevation.
- _____Make, type, model, and nominal K-factor of sprinklers.
- _____Temperature rating and locations for high-temperature sprinklers.
- _____Total area protected by each system on each floor.
- _____Number of sprinklers on each riser per floor.
- _____Total number of sprinklers on each dry pipe system, pre-action, combined or deluge system.
- _____Approximate capacity in gallons of each dry pipe system.
- _____Pipe type and schedule of wall thickness.
- _____Nominal pipe size and cutting lengths of pipe or center-to-center dimensions. Where typical branch lines prevail, it shall be necessary to size only one typical line.
- _____Location and size of riser nipples.
- _____Type of fittings and joints and location of all welds and bends. The contractor shall specify on drawing any sections to be shop welded and the type of fittings or formations to be used.
- _____Type and locations of hangers, sleeves, braces, and methods of securing sprinklers when applicable.
- _____All control valves, check valves, drain pipes, and test connections.

- _____Make, type, model, and size of alarm or dry pipe valve.
- _____Make, type, model, and size of preaction or deluge valve.
- _____Kind and location of alarm bells.
- _____Size and location of standpipes risers, hose outlets, and hose, monitor nozzles, and related equipment.
- _____Private fire service main sizes, lengths, locations, weights, materials, point of connection to city main; the sizes, types and locations of valves, valve indicators, regulators, meters, and valve pits; and the depth that the tops of the pipes is laid below grade.
- _____Piping provisions for flushing.
- _____Where the equipment is to be installed as an addition to an existing system, enough of the existing system indicated of the plans to make all conditions clear.
- _____For hydraulically designed systems, the information on the hydraulic data nameplate.
- _____A graphic representation of the scale used on all plans.
- _____Name and address of contractor.
- _____Hydraulic reference points shown on the plan that correspond with comparable reference points on the hydraulic calculation sheet.
- _____The minimum rate of water application (density), the design area of water application, in-rack sprinkler demand, and water required for hose streams both inside and outside.
- _____The total quantity of water and the pressure required noted at a common reference point for each system.
- _____Relative elevations of sprinklers, junction points, and supply of reference points.
- _____If room design method is used, all unprotected wall openings throughout the floor protected.
- _____Calculation of loads for sizing and details of sway bracing.
- _____The setting for pressure-reducing valves.
- _____Information about backflow preventers (manufacturer, size, type).
- _____Information about antifreeze solution used (type and amount).
- _____Size and location of hydrants, showing size and number of outlets and if outlets are to be equipped with independent gate valves. Whether hose houses and equipment are to be provided, and by whom, shall be indicated. Static and residual hydrants that were used in flow tests shall be shown.
- _____Size, locations, and piping arrangement of fire department connections.

Please provide the following in a **"DESIGN CRITERIA"** box:

Hazard class (Check all that apply)

- _____ Ordinary (135-170) Max. Ceiling Temperature 100
- _____ Intermediate (175-225) Max. Ceiling Temperature 150
- _____ High (250-300) Max. Ceiling Temperature 225
- _____ Extra High (400-475) Max. Ceiling Temperature 300
- _____ Very Ex. High (400-475) Max. Ceiling Temperature 375
- _____ Ultra High I (500-575) Max. Ceiling Temperature 475
- _____ Ultra High II (650) Max. Ceiling Temperature 625

System Protection Area Limitations

- Light hazard – 52,000 sq.ft. (4831 m)
- Ordinary hazard – 52,000 sq.ft. (4831 m)
- Extra hazard – Pipe schedule – 25,000 sq.ft. (2323 m)
- Hydraulically calculated – 40,000 sq.ft. (3716 m)

Exception No. 1: The floor area occupied by mezzanines shall not be included in the above area.

Exception No. 2: Where single systems protect extra hazard, high-piled storage, or storage covered by other NFPA standards, and ordinary or light hazard areas, the extra hazard or storage area coverage shall not exceed the floor area specified for the hazard and the total area coverage shall not exceed 52,000 sq.ft. (4831 m)

- _____ Design density _____ Design Area (sq. ft.)
- _____ Number of sprinklers in design area
- _____ Water supply data:

_____ **a.** Test date and location _____ **b.** Flow PSI and GPM _____ **c.** Residual PSI
_____ **d.** Static PSI

- _____ Hose stream and in-rack sprinkler water allowance
- _____ System demand: _____ PSI at riser _____ GPM at riser
-

_____ **7.** The Building Code occupancy class of each area or room in the building is indicated on the drawings.

_____ **8.** Sprinkler heads are positioned no closer than 4 inches to any wall and no further from a wall than one-half the allowable distance between sprinklers.

_____ **9.** The clear space below sprinklers is in accordance with NFPA 13.

_____ **10.** The placement, location and contents of the spare sprinkler head cabinet is indicated on the drawings.

_____ **11.** The location and size of the inspectors test valve is indicated on the drawings.

_____ **12.** The maximum floor area on any single floor, served by an individual riser, does not exceed NFPA 13 allowance.

_____ **13.** Cut sheet literature describing all system components are included as attachments; or component manufacturer, make, and model data is included on the drawings when the components are listed in the Underwriters Laboratories Inc. **"Fire Protection Equipment Directory".**

_____ **14.** Sprinkler system installation under exterior combustible roofs or canopies exceeding 4 feet in width, attached to the building is indicated on the drawings.

_____ **15.** Sprinkler head installation under ducts (more than 4 feet in width) is indicated on the drawings.

_____ **16.** Sprinkler head installation for shade structure 3000 square feet or more is indicated on the drawings.

_____ **17.** Third party monitoring of water flow is provided for systems with 20 or more sprinkler heads.

_____ **18.** Have sprinklers been installed under fixed obstructions?

_____ **19.** Fire hose valves and stations (when required or provided) are spaced so that all protected areas are within 30 feet of a nozzle when attached to not more than 100 feet of hose. Fire hose valves shall be 2-1/2 male connections NST) with gate valve. No hose shall be attached.

_____ **20.** A detail of the hydraulic data nameplate is included on the drawings.

_____ **21.** A calculation for hydraulically calculated systems contains the data required in accordance with NFPA 13.

NOTE: A COMPLETED CONTRACTORS TEST CERTIFICATE PER NFPA 13-10.1 WILL BE REQUIRED AT THE TIME OF FINAL INSPECTION.